REMARKS/ARGUMENTS

Claims 1-18 are currently pending in the above-identified application. Claims 1, 5, 6, 10, 11, 13 and 18 have been amended as set forth in detail below. Support for these amendments is identified in the following remarks. No new matter is added by these amendments. Also, claims 4 and 9 have been cancelled and the subject matter inserted into amended claims 1 and 6, respectively. Further, claims 19 through 35 have been indicated by the Examiner as being directed to a non-elected invention. Therefore, claims 19 through 35 have been canceled without prejudice to the subject matter of the claims being pursued in a copending related application.

Rejections under 35 U.S.C. §112:

Claims 5-9 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular the Examiner believes that Claims 5-9 are indefinite because of the recitation of "Hybridize" or "specifically hybridize" without a statement of the conditions used. Although Applicants believe the claims as originally presented are definite because hybridization conditions are well known in the art, claims 5 and 6 have been amended to further expedite prosecution of certain subject matter disclosed and claimed in the application. The claims now recite that the polynucleotide of claim 1 or the probe which comprises an oligonucleotide is capable of hybridizing at 65-68°C in aqueous solution containing 4-6X SSC, or 42°C in 50% formamide combined with washes at a high temperature of 5-25°C below the T_m and at a low salt concentration of 0.1X SSC to a defined polynucleotide sequence. Support for this amendment can be found for example at page 10, lines 11 through 16.

Claims 1-3, 5-10 and 13-17 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner believes that the

claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, the Examiner does not believe that the specification contains any disclosure of the structure of all DNA sequences of all mammalian mDab1 and fragments thereof. Further, the Examiner believes that many structurally unrelated DNAs are encompassed within the scope of the claims, including partial DNA sequences and sequences that have not been disclosed by the specification. Still further, the Examiner does not believe that the specification supports the alleged broad scope of the claims which the Examiner summarizes as encompassing any polynucleotide that will hybridize to SEQ ID NO: 2, any ortholog, allelic or splice variant of the polypeptide of SEQ ID NO: 3 encoded by SEQ ID NO:2, as well as any polynucleotide having 65% to 95% identity to SEQ ID NO:2. The Examiner reasons that no support is present because the specification does not establish (A) regions of the polynucleotide sequence which may be modified without necessarily affecting to protein structure necessary for it's ability to specifically associate with Src, Abl or Fyn; (b) the general tolerance of the polynucleotide encoding the specific mDab1 to modification and extent of such tolerance; (C) a rational and predictable scheme for modifying any segment of the polynucleotide encoding mDab1 with an expectation of retaining the capacity to associate with Src, Abl or Fyn; and (D) the specification provides insufficient guidance as to which of the essentially infinite possible choices is likely to be successful.

Applicants do not agree with the Examiner's summary of the invention or the summary of the enablement provided by the disclosure, but in order to further expedite prosecution of certain subject matter disclosed and claimed in the application have amended claims 1, 5, 10, and 13 to recite the polynucleotide molecule which encodes mammalian Dab1 (Disabled protein 1) as depicted in SEQ ID NO: 3, or a fragment thereof, wherein the mammalian Disabled protein comprises a phosphotyrosine binding domain and can associate with the SH2 domain of Src, Abl or Fyn, or a complementary sequence thereof. Claim 6 has been amended to recite a probe which comprises an oligonucleotide capable of specifically hybridizing at 65-68°C in aqueous solution containing 4-6X SSC, or 42°C in 50% formamide

combined with washes at a high temperature of 5 to 25°C below the T_m and at a low salt concentration of 0.1X SSC) with a polynucleotide sequence which encodes a mammalian Disabled protein 1 as depicted in SEQ ID NO: 2, or allelic and species variants thereof, wherein the mammalian Disabled protein, allelic or species variant thereof comprises a phosphotyrosine binding domain and can associate with the SH2 domain of Src, Abl or Fyn. Such amendment provide additional definiteness to the claimed oligonucleotide sequences and polynucleotide sequences encompassed by the claims. Further, the claimed sequences are believed to be fully enabled by the specification. The specification provides descriptions of the various domains of the mDab1 protein and splice variants including the location of the domain that associates with the SH2 of Src, Abl and Fyn. The specification also provides descriptions of mutations in the PTB domain that are important for continued activity. These data and other studies as well as the characterizations in the art of related proteins provide sufficient guidance to the skilled artisan regarding regions that can be varied to a greater extent than others. Applicants are not required to provide a complete description of all possible polynucleotides that meet the requirements of the claims only reasonable guidance. Applicants believe that they have provided sufficient enablement for the claimed invention as amended including fragments thereof that comprise a phosphotyrosine binding domain and can associate with the SH2 domain of Src, Abl or Fyn.

Applicants believe that all of the rejections of the Examiner under 35 U.S.C. § 112 and respectfully request the rejections be withdrawn in view of the above amendments and remarks.

Rejections under 35 U.S.C. §102:

Claims 1, 2, 5, 6, 7 and 9 are rejected under 35 U.S.C. §102(b) as being anticipated by Bonaldo *et al.* Bonaldo *et al.* teach a sequence that allegedly shows 100% identity to residues spanning nucleotide 53-658 of SEQ ID NO:2 encoding the protein of SEQ ID NO:3. Applicants have reviewed the papers accompanying the office action and the file history and do not find a reference by Bonaldo *et al.* A reference to a Genbank submission designated as

W64787 listing Marra *et al.* as the authors was cited in the International Search Report. The clone that was sequenced to provide the listing is referred to as having been from a library that went through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo. A review of the sequence does not demonstrate the identity to the sequence described by the Examiner. Applicants respectfully request the Examiner provide the reference cited.

Claims 1-5 are rejected under 35 U.S.C. §102(a) as being anticipated by Howell *et al.* (Genbank accession Y08379). The Examiner summarizes the disclosure as teaching a murine dab1 protein that comprises a sequence that is identical to that set forth in SEQ ID NO: 3 and that the sequence first appeared in the GenBank database on January 08, 1997. Applicants note that the present application claims priority to US application serial number 60/056,473, filed August 21, 1997. The publication date of the GenBank submission is less than 12 months prior to the date of filing the priority application. Further, the GenBank submission was made by the two inventors of the present application. The submission also names a third co-author who is not a co-inventor of the claimed invention. As the date of disclosure is less than 12 months prior to the filing date of the priority application the GenBank submission is not a proper reference under 35 U.S.C. § 102(a). The Examiner is respectfully requested to withdraw the present rejection.

Claims 1-17 are rejected under 35 U.S.C. §102(a) as being anticipated by Howell *et al.*, (*EMBO J.* 16:121-132, 1997). The reference is described by the Examiner as teaching an isolated polynucleotide encoding mDab1, splice variants, probes used in Nothern hybridization and host cells transformed with the vectors to express mDab1 proteins. The cited reference has a publication date of January 02, 1997 naming the same co-authors as the above cited GenBank submission. As above, the reference was published less than 12 months before the date of filing of the priority application. Therefore as above, the reference is not a proper reference under 35 U.S.C. § 102(a). Applicants therefore respectfully request the Examiner to withdraw the present rejection.

Rejections under 35 U.S.C. §103:

Claims 1-3, 5 and 6-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bonaldo *et al.* above. Further, Claims 6-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Howell *et al.* (Genbank accession Y08379). As above, the cited references were published less than 1 year before the priority date of the present application. Therefore, the references can not be the basis for a rejection under 35 U.S.C. § 103(a). As such Applicants respectfully request the Examiner withdraw the present rejections.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 206-467-9600.

Respectfully submitted,

Dated: 15 September 2005 By: Brian W. Poor

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